

REMARKS/ARGUMENTS

This application has been amended so as to place it in condition for allowance at the time of the next Official Action.

The Official Action rejects claims 1-4 under 35 USC §103(a) as being unpatentable over YAMADA et al. 5,121,153 in view of TANABE 6,404,988. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

The Official Action offers the YAMADA et al. reference for its asserted teaching or suggestion of a motor with a first spur gear 51, an idle gear 54, second spur gear/impeller combination 55, and photo sensor 57, all as illustrated in Figure 3 of the reference. The secondary TANABE reference is offered for its teaching that a worm gear can be used to change the axis of rotation of the drive means.

Please note that applicant has amended independent claim 1, from which the remaining rejected claims depend, to further recite that the idle gear is meshed directly with the first spur gear, the second spur gear is meshed directly with the idle gear, and the impeller is fixed to the second spur gear.

As is readily evident from present Figures 5 and 6, the motor activation device of the present invention utilizes a spur gear 56 attached to the shaft of the motor, such spur gear directly drives the idle gear 57, which in turn directly drives spur gear 60. In this way, there exists only one intermediate

gear between the gear that is attached to the motor shaft and the gear that is attached to the impeller. As is best illustrated in present Figure 6, this serves to minimize the volume occupied by the present gear system. This goes directly to a stated desire underlying the present invention, as noted in the first paragraph of the *Summary of the Invention* section of the present application, and is noticeably lacking from the stated consideration underlying the device of YAMADA et al. Figure 3 of YAMADA et al. provides the best overall view of the disclosed embodiment, and evidences that space-saving in the gear train is not a consideration.

The secondary reference may be construed for teaching or suggesting the general notion of using a worm gear to accomplish a 90° angular displacement of the rotational axis, but this reference fails to overcome the shortcomings of the primary reference in connection with the features now recited in the amended claim.

The Official Action rejects claims 5-9 under 35 USC §103(a) as being unpatentable over YAMADA et al. in view of TANABE and further in view of HOFFMANN 6,255,751. Reconsideration and withdrawal of this rejection are respectfully requested for the following reasons:

The HOFFMANN reference is offered merely for its asserted teaching or suggestion of the first and second spur gear having the same number of teeth.

Irrespective of the ability of this reference to teach or suggest that for which it is offered, it nevertheless fails to overcome the shortcomings of the combination of references considered in the previous rejection.

In addition to the amendments described above, applicant has added new claim 10. This claim depends directly from amended claim 1, and further recites that a circle swept out by the blades of the impeller during rotation overlaps with the idle gear that meshes directly with the first spur gear fixed to the rotary shaft of the motor.

This characteristic of the present invention is clearly illustrated by present Figure 6. Blades 58a of the impeller 58 travel a path that considerably overlaps idle gear 57. This is clearly not the case in connection with the gear train of YAMADA et al., particularly with the explicit recitation in the present claims of the idle gear meshing directly with the first spur gear that is fixed to the rotary shaft of the motor.

Entry of the above amendments is earnestly solicited. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.


Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

Respectfully submitted,

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By



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